In the Claims

1.   (Currently Amended) A method of processing a database service query, comprising:

receiving a service query,

obtaining a sum of terms associated with the service query by expanding at least one nested term into one or more un-nested terms,

evaluating the sum of terms as a plurality of SQL instructions, wherein the sum of terms comprises one or more positive terms and one or more negative terms,

determining a plurality of results associated with the sum of terms <u>by executing, using a processor, the SQL instructions,</u> ~~wherein the plurality of results are determined by a processor and the determination comprises:~~

collecting, into a first list, <u>any of the</u> results associated with the one or more negative terms, [[and]]

collecting, into a second list, <u>any of the</u> results associated with the one or more positive terms while omitting from the second list any <u>of the</u> results that are in the first list,

and

providing one or more <u>of the</u> results from the second list to a user.

2.   (Original) The method as claimed in claim 1, further comprising expanding each term to remove NOT operators.

3.   (Original) The method as claimed in claim 2, wherein the sum of terms are expanded using Boolean logic.

4.   (Original) The method as claimed in claim 1, in which the service query is an X.500 or LDAP service query.

5.   (Original) The method as claimed in claim 1, in which the service query is a search service query.

6.   (Withdrawn) A method of processing a database service query, comprising:

determining a SQL instruction representative of a function;

listing the results of a subtracted SQL instruction in a first list, listing the results of a non-subtracted SQL instruction in a second list; and

not listing results which are duplicates of previously listed subtracted or non-subtracted results.

7.   (Withdrawn) The method as claimed in claim 6, in which the service query is an X.500 or LDAP query.

8.   (Withdrawn) The method as claimed in claim 6, in which the service query is a search service query.

9.   (Currently Amended) A system for processing a directory service query, comprising:

a database operable to store arbitrary data; and

a processor that is communicatively coupled to the database and that processes a service query by:

obtaining a sum of terms by expanding at least one nested term into one or more un-nested terms,

evaluating the sum of terms as a plurality of SQL instructions, wherein the sum of terms comprises one or more positive terms and one or more negative terms,

determining a plurality of results associated with the sum of terms by executing the SQL instructions, ~~wherein the determination comprises:~~

collecting, into a first list, any of the results associated with the one or more negative terms, [[and]]

collecting, into a second list, any of the results associated with the one or more positive terms while omitting from the second list any of the results that are in the first list,

and

providing one or more of the results from the second list to a user.

10.   (Previously Presented) The system as claimed in claim 9, further comprising means to perform X.500 or LDAP services.

11.   (Withdrawn) A directory service arrangement comprising:

a database using a plurality of tables, each table having a plurality of rows and columns, and storing arbitrary data, and

means for processing a service query by determining a SQL instruction representative of a function, listing the results of a subtracted SQL instruction in a first list, listing the results of a non-subtracted SQL instruction in a second list, and not listing results which are duplicates of previously listed subtracted or non-subtracted results.

12.   (Withdrawn) The directory service arrangement as claimed in claim 11, further comprising means to perform X.500 or LDAP services.

13.   (Withdrawn) A method for processing a database service query, comprising:
translating a service query to an expression;
simplifying the expression to a number of smaller expressions, each smaller expression being capable of being flattened;

flattening each smaller expression; and

executing each flattened expression.

14.   (Previously Presented) A method of processing a directory service query, comprising:

receiving a directory service query,

obtaining a sum of terms by expanding at least one nested term into one or more un-nested terms,

mapping the sum of terms to a plurality of SQL instructions, wherein the sum of terms comprises one or more positive terms and one or more negative terms,

determining a plurality of results associated with the sum of terms <u>by executing, using a processor, the SQL instructions,</u> ~~wherein the plurality of results are determined by a processor and the determination comprises:~~

collecting, into a first list, <u>any of the</u> results associated with the one or more negative terms, [[and]]

collecting, into a second list, <u>any of the</u> results associated with the one or more positive terms while omitting from the second list any <u>of the</u> results that are in the first list,

and

providing one or more <u>of the</u> results from the second list to a user.

15.   (Previously Presented) The method as claimed in claim 14, further comprising expanding each term to remove NOT operators.

16.   (Original) The method as claimed in claim 15, wherein the sum of terms are expanded using Boolean logic.

17.   (Previously Presented) The method as claimed in claim 14, in which the directory service query is an X.500 or LDAP service query.

18.   (Previously Presented) The method as claimed in claim 14, in which the directory service query is a search service query.

19.   (Withdrawn) A method of processing a directory service query, comprising:

determining a SQL instruction representative of the directory service query;

listing the results of a subtracted SQL instruction in a first list, listing the results of a non-subtracted SQL instruction in a second list; and

not listing results which are duplicates of previously listed subtracted or non-subtracted results.

20.   (Withdrawn) The method as claimed in claim 19, in which the service query is an X.500 or LDAP query.

21.   (Withdrawn) The method as claimed in claim 19, in which the service query is a search service query.

22.   (Currently Amended) A system for processing a directory service query, comprising:

a database that is operable to store arbitrary data; and

a processor that is communicatively coupled to the database and that processes a directory service query by:

obtaining a sum of terms by expanding at least one nested term into one or more un-nested terms,

mapping the sum of terms to a plurality of SQL instructions, wherein the sum of terms comprises one or more positive terms and one or more negative terms,

determining a plurality of results associated with the sum of terms <u>by</u> <u>executing the SQL statements,</u> ~~wherein the determination comprises:~~

collecting, into a first list, <u>any of the</u> results associated with the one or more negative terms, and

collecting, into a second list, <u>any of the</u> results associated with the one or more positive terms while omitting from the second list any <u>of the</u> results that are in the first list,

and

providing ~~the determined plurality of results~~ <u>only the results from the second</u> <u>list</u> to a user.

23.   (Previously Presented) The system as claimed in claim 22, further comprising means to perform X.500 or LDAP services.

24.   (Withdrawn) A directory service arrangement comprising:

a database using a plurality of tables, each table having a plurality of rows and columns, and storing arbitrary data, and

means for processing a directory service query by determining a SQL instruction representative of the directory service query, listing the results of a subtracted SQL instruction in a first list, listing the results of a non-subtracted SQL instruction in a second list, and not listing results which are duplicates of previously listed subtracted or non-subtracted results.

25.   (Withdrawn) The directory service arrangement as claimed in claim 24, further comprising means to perform X.500 or LDAP services.

26.   (Withdrawn) A method for processing a directory service query, comprising:

translating a directory service query to an expression;

simplifying the expression to a number of smaller expressions, each smaller expression being capable of being flattened;

flattening each smaller expression; and

executing each flattened expression.

27.   (Currently Amended) The method of claim 1 wherein:

evaluating the sum of terms comprises converting the sum of terms to a plurality of SQL instructions comprising at least one negative term;
and further comprising:

subtracting at least one ~~result~~ of the results associated with the at least one negative term.

28.   (Previously Presented) The method of claim 1, wherein obtaining a sum of terms comprises:

identifying at least one term associated with at least one NOT operator; and

expanding the at least one term associated with the at least one NOT operator into at least one negative term.

29.   (Previously Presented) The method of claim 1, wherein:

if the service query comprises a term having at least two NOT operators, deleting or disregarding from the sum of terms a third-order term corresponding to the term having at least two NOT operators.

30.   (Previously Presented) The method of claim 1, wherein obtaining a sum of terms comprises:

identifying at least one term associated with at least one NOT operator; and

expanding the at least one term associated with at least one NOT operator into at least one negative term and at least one positive term.

31.   (Currently Amended) A method of processing a database service query, comprising:

receiving a service query;

obtaining a sum of terms associated with the service query by:

expanding at least one nested term into one or more un-nested terms;

expanding at least one term associated with at least one NOT operator into at least one negative term and at least one positive term; and

if the service query comprises a term having at least two NOT operators, deleting from the sum of terms a third-order term corresponding to the term having at least two NOT operators;

evaluating the sum of terms as a plurality of SQL instructions;

obtaining a plurality of results by executing, using a processor, the SQL instructions, wherein each term of the sum of terms is associated with one or more of the results;

generating a first list comprising one or more of the results associated with the at least one negative term;

generating a second list comprising one or more of the results associated with the at least one positive term, wherein the first list and the second list are generated by [[a]] the processor;

removing or omitting from the second list one or more at least one of the results associated with the at least one negative term; and

providing one or more of the results from the second list to a user.